

CLAIMS

1. A piezoelectric device formed by sticking to a metal plate a single crystal plate which is made of a $\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$ - PbTiO_3 solid solution single crystal or a $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ - PbTiO_3 solid solution single crystal, and which is brought into a mono-domain in the thickness direction and in the plate surface to impart a giant-lateral-effect piezoelectric characteristic thereto, while the mono-domain is kept as it is.

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2. The piezoelectric device according to claim 1, formed by making the single crystal plate and the metal plate repeatedly laminated with each other.

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3. The piezoelectric device according to claim 1 or 2, wherein the single crystal plate is a single crystal plate whose piezoelectric characteristic is not deteriorated from a value immediately after polarization with the lapse of time.

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4. The piezoelectric device according to claim 1 or 2, formed as a piezoelectric unimorph and having a bending-vibration-mode electromechanical coupling coefficient k_b not smaller than 50%.

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5. The piezoelectric device according to claim 1 or 2, formed as a piezoelectric bimorph and having a bending-vibration-mode electromechanical coupling coefficient k_b not smaller than 60%.

6. The piezoelectric device according to any one of claims 1 to 5, wherein six faces of the mono-domain single crystal plate are used as a face which prevents domain wall movement.

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7. The piezoelectric device according to any one of claims 1 to 5, wherein the metal plate and adhesive layer that sticks the single crystal plate are used as a member which prevents domain wall movement.

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